General

Guideline Title

Multifetal gestations: twin, triplet, and higher-order multifetal pregnancies.

Bibliographic Source(s)

American College of Obstetricians and Gynecologists (ACOG). Multifetal gestations: twin, triplet, and higher-order multifetal pregnancies. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 2014 May. 15 p. (ACOG practice bulletin; no. 144). [138 references]

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: American College of Obstetricians and Gynecologists (ACOG). Multiple gestation: complicated twin, triplet, and high-order multifetal pregnancy. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 2004 Oct. 15 p. (ACOG practice bulletin; no. 56). [141 references]

Recommendations

Major Recommendations

The grades of evidence (I-III) and levels of recommendation (A-C) are defined at the end of the "Major Recommendations" field.

The following recommendations and conclusions are based on good and consistent scientific evidence (Level A):

- There is no role for the prophylactic use of any tocolytic agent in women with multifetal gestations, including the prolonged use of betamimetics for this indication.
- Progesterone treatment does not reduce the incidence of spontaneous preterm birth in unselected women with twin or triplet gestations and, therefore, is not recommended.

The following recommendations and conclusions are based on limited or inconsistent scientific evidence (Level B):

- Because of the increased rate of complications associated with monochorionicity, determination of chorionicity by late first trimester or early second trimester in pregnancy is important for counseling and management of women with multifetal gestations.
- Interventions, such as prophylactic cerclage, prophylactic tocolytics, prophylactic pessary, routine hospitalization, and bed rest, have not been proved to decrease neonatal morbidity or mortality and, therefore, should not be used in women with multifetal gestations.
- Magnesium sulfate reduces the severity and risk of cerebral palsy in surviving infants if administered when birth is anticipated before 32 weeks of gestation, regardless of fetal number.

- Women with one previous low transverse cesarean delivery, who are otherwise appropriate candidates for twin vaginal delivery, may be considered candidates for trial of labor after cesarean delivery.
- Women who underwent pregnancy reduction from triplets to twins, as compared with those who continued with triplets, were observed to have lower frequencies of pregnancy loss, antenatal complications, preterm birth, low-birth-weight infants, cesarean delivery, and neonatal deaths, with rates similar to those observed in women with spontaneously conceived twin gestations.
- Unless a contraindication exists, one course of antenatal corticosteroids should be administered to all patients who are between 24 weeks and 34 weeks of gestation and at risk of delivery within 7 days, irrespective of the fetal number.

The following recommendations and conclusions are based primarily on consensus and expert opinion (Level C):

- Women with uncomplicated monochorionic–monoamniotic twin gestations can undergo delivery at 32 to 34 weeks of gestation.
- In diamniotic twin pregnancies at 32 0/7 weeks of gestation or later with a presenting fetus that is vertex, regardless of the presentation of the second twin, vaginal delivery is a reasonable option and should be considered, provided that an obstetrician with experience in internal podalic version and vaginal breech delivery is available.
- All women with multifetal gestations, regardless of age, are candidates for routine aneuploidy screening.
- The administration of neuraxial analgesia in women with multifetal gestations facilitates operative vaginal delivery, external or internal cephalic version, and total breech extraction.
- Women with monoamniotic twin gestations should be delivered via cesarean.

Definitions:

Grades of Evidence

I: Evidence obtained from at least one properly designed randomized controlled trial.

II-1: Evidence obtained from well-designed controlled trials without randomization.

II-2: Evidence obtained from well-designed cohort or case–control analytic studies, preferably from more than one center or research group.

II-3: Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.

III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

Levels of Recommendations

Level A — Recommendations are based on good and consistent scientific evidence.

Level B — Recommendations are based on limited or inconsistent scientific evidence.

Level C — Recommendations are based primarily on consensus and expert opinion.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Multifetal gestations and resulting complications, including:

- Spontaneous preterm birth
- Fetal and infant morbidity and mortality

Guideline Category

Management

Risk Assessment

Clinical Specialty

Obstetrics and Gynecology

Pediatrics

Surgery

Intended Users

Physicians

Guideline Objective(s)

- To aid practitioners in making decisions about appropriate obstetric and gynecologic care
- To review the issues and complications associated with twin, triplet, and higher-order multifetal gestations and present an evidence-based approach to management

Target Population

Women with multifetal gestations: twin, triplet, and higher order multifetal pregnancies

Interventions and Practices Considered

1. Ultrasound to determine chorionicity
2. Magnesium sulfate
3. Antenatal corticosteroids
4. Vaginal delivery
    - Consideration of previous cesarean deliveries
    - Monochorionic-monoamniotic twins at 32 to 34 weeks gestation
    - Diamniotic twins if presenting fetus is vertex
    - Providing experienced obstetrician
5. Pregnancy reduction in triplets to reduce antenatal complications (if indicated)
6. Routine aneuploidy screening
7. Neuraxial analgesia
8. Cesarean delivery (monoamniotic twin gestations)

Note: The following interventions were considered but not recommended:

Prophylactic use of tocolytic agents
Progesterone
Prophylactic cerclage, prophylactic pessary, routine hospitalization, and bed rest

Major Outcomes Considered

- Rate of infant morbidity
- Rate of maternal morbidity
- Infant and maternal mortality

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

The MEDLINE database, the Cochrane Library, and the American College of Obstetricians and Gynecologists' (ACOG) own internal resources and documents were used to conduct a literature search to locate relevant articles published between January 1990 and October 2013. The search was restricted to articles published in the English language. Priority was given to articles reporting results of original research, although review articles and commentaries also were consulted. Abstracts of research presented at symposia and scientific conferences were not considered adequate for inclusion in this document. Guidelines published by organizations or institutions such as the National Institutes of Health and the ACOG were reviewed, and additional studies were located by reviewing bibliographies of identified articles. When reliable research was not available, expert opinions from obstetrician-gynecologists were used.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Studies were reviewed and evaluated for quality according to the method outlined by the U.S. Preventive Services Task Force (1989):

I: Evidence obtained from at least one properly designed randomized controlled trial.

II-1: Evidence obtained from well-designed controlled trials without randomization.

II-2: Evidence obtained from well-designed cohort or case–control analytic studies, preferably from more than one center or research group.

II-3: Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.

III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Analysis of available evidence was given priority in formulating recommendations. When reliable research was not available, expert opinions from obstetrician-gynecologists were used. See also the "Rating Scheme for the Strength of the Recommendations" field regarding Level C recommendations.

Rating Scheme for the Strength of the Recommendations

Based on the highest level of evidence found in the data, recommendations are provided and graded according to the following categories:

Level A — Recommendations are based on good and consistent scientific evidence.

Level B — Recommendations are based on limited or inconsistent scientific evidence.

Level C — Recommendations are based primarily on consensus and expert opinion.

Cost Analysis

The guideline developers reviewed published cost analyses.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

Practice Bulletins are validated by two internal clinical review panels composed of practicing obstetrician-gynecologists generalists and sub-specialists. The final guidelines are also reviewed and approved by the American College of Obstetricians and Gynecologists (ACOG) Executive Board.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate management of multifetal gestations

Potential Harms

- Several limitations must be considered when screening for aneuploidy in multifetal gestations. Serum screening tests are not as sensitive in women with twin or triplet gestations compared with singleton gestations, in part because analyte levels must be estimated by mathematical modeling. In addition, analytes from the normal and the affected fetuses enter the maternal serum and are in effect averaged together, thus potentially masking the abnormal levels of the affected fetus.
- In women with twin gestations, first-trimester screening that combines maternal age, nuchal translucency, and biochemistry serum analytes identifies approximately 75% to 85% of pregnancies with Down syndrome and 66.7% of pregnancies with trisomy 18, with a 5% false-positive rate.
- Hospitals that elect to use magnesium sulfate for fetal neuroprotection should develop uniform and specific guidelines for their departments regarding inclusion criteria, treatment regimens, concurrent tocolysis, and monitoring in accordance with one of the larger trials.

Qualifying Statements

Qualifying Statements

The information is designed to aid practitioners in making decisions about appropriate obstetric and gynecologic care. These guidelines should not be construed as dictating an exclusive course of treatment or procedure. Variations in practice may be warranted based on the needs of the individual patient, resources, and limitations unique to the institution or type of practice.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Foreign Language Translations

Patient Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

American College of Obstetricians and Gynecologists (ACOG). Multifetal gestations: twin, triplet, and higher-order multifetal pregnancies. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 2014 May. 15 p. (ACOG practice bulletin; no. 144). [138 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2004 Oct (revised 2014 May)

Guideline Developer(s)

American College of Obstetricians and Gynecologists - Medical Specialty Society

Source(s) of Funding

American College of Obstetricians and Gynecologists (ACOG)

Guideline Committee

American College of Obstetricians and Gynecologists (ACOG) Committee on Practice Bulletins—Obstetrics and the Society for Maternal-Fetal Medicine

Composition of Group That Authored the Guideline

American College of Obstetricians and Gynecologists (ACOG) committees are created or abolished and their overall function defined by the Executive Board. Appointments are made for one year, with the understanding that such appointment may be continued for a total of three years. The majority of committee members are Fellows, but Junior Fellows also are eligible for appointment. Some committees may have representatives from other organizations when this is particularly appropriate to committee activities. The president elect appoints committee members annually.

Financial Disclosures/Conflicts of Interest

Not stated

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: American College of Obstetricians and Gynecologists (ACOG). Multiple gestation: complicated twin, triplet, and high-order multifetal pregnancy. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 2004 Oct. 15 p. (ACOG practice bulletin; no. 56). [141 references]

Guideline Availability

Electronic copies: None available

Print copies: Available for purchase from the American College of Obstetricians and Gynecologists (ACOG) Distribution Center, PO Box 933104, Atlanta, GA 31193-3104; telephone, 800-762-2264; e-mail: sales@acog.org. The ACOG Bookstore is available online at the ACOG Web site.

Availability of Companion Documents

None available

Patient Resources

The following is available:

- Frequently asked questions: having twins. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 2012 Jun. 3 p. Electronic copies: Available in Portable Document Format (PDF) from the American College of Obstetricians and Gynecologists (ACOG) Web site. Copies are also available in Spanish.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI Institute on October 10, 2007. The information was verified by the guideline developer on December 3, 2007. The information was reaffirmed by the guideline developer in 2009 and updated by ECRI Institute on February 9, 2010. This summary was updated by ECRI Institute on March 11, 2011 following the U.S. Food and Drug Administration (FDA) advisory on Terbutaline. This summary was updated by ECRI Institute on May 20, 2014.

Copyright Statement

Disclaimer

NGC Disclaimer

The National Guideline Clearinghouseâ„¢ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at http://www.guideline.gov/about/inclusion-criteria.aspx.

NGC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI Institute, and inclusion or hosting of

guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.